Reprint

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CASES OF OVARIOTOMY.

CASES OF OVARIOTOMY, WITH SOME REMARKS UPON THE OPERATION.

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There is no occasion at the present day for multiplying reports of ovariotomy, unless the cases possess some unusual interest. Therefore, in presenting the following cases, which, eight in number, constitute all the operations that I have performed up to this time, I shall avoid details, except they be of special value.

Case I.—Miss ——, aged 16. I first saw her with her physician, Dr. H. S. Lucas, of Chester, Mass., in December, 1862. She had been a healthy girl until two years before, at which time menstruation was established, and soon after she noticed an abdominal enlargement. She could not tell whether it began more upon one side than the other, but thought "both alike." This gradually increased, without pain or tenderness, or any marked impairment of the general health, until the spring of 1862. At this time it increased rapidly, and even before the distention was extreme, her health failed quite suddenly. She lost strength and appetite, and suffered great derangement of the digestive organs. A marked feature was, also, an unusually rapid pulse, which Dr. Lucas assured me was 140 per minute, whereas its normal rate was below 80. Dr. L. tapped her at this time, drawing off "about three pailfuls of syrupy, molasses-colored fluid." The operation was followed by immediate relief of all unpleasant symptoms, appetite and strength returned, the pulse fell to its natural standard, and in a few weeks she was in excellent health.

By the following September, the abdomen had again enlarged sufficiently to reproduce the symptoms above described, which were as speedily relieved by paracentesis as in the first instance, a fluid of similar character, though in less quantity, having been withdrawn.

I found her, in the following December, with all the evidences of a multilocular ovarian cyst, and with the same derangement of the general health as had preceded the two previous tappings. The heart's action was very rapid and feeble, and yet the enlargement was not nearly as great as is frequently seen when the action is little if at all affected by the pressure. My notes of the case do not include a statement of the quantity of liquid at this time evacuated, but I think the amount was about eighteen pounds. This was again followed by speedy restoration to health.

Having explained to herself and friends the nature of her case, and her chances with and without an operation, she was left, with the advice that in case she elected it, excision should be performed before the re-accumulation was sufficient to produce much general disturbance. In eight weeks, the sac had re-filled sufficiently to dis[illegible] the stomach and heart, and she decid[illegible] on an operation. This I made in the [illegible]sence and with the assistance of Drs. H. S. Lucas, A. M. Smith, and F. K. Paddock, and others.

Ether being administered, she was placed, supine, upon a table in a room the temperature of which was 80° Fahr., and the air was kept constantly moist by steam. Standing upon the patient's right, I made an incision, with a common scalpel, in the median line, from above the umbilicus to the pubes. This was afterwards extended nearly to the ensiform cartilage. The tumor was readily exposed, and the principal cyst, seized and steadied by a tenaculum, was emptied of its fluid contents, which resembled that removed in the former tappings. There remained a fleshy mass filled with small cysts containing thick albuminous jelly, the whole being so large as to require the extension of the first incision above referred to. Adhesions of moderate strength existed over a considerable portion of the abdominal parietes, and also to the lower border of the stomach and liver, but none were sufficiently firm to prevent a ready separation of the tumor. The pedicle was found to be the right broad liga-

ment. This was transfixed with a needle armed with a double ligature, and each half tied in the following manner, which I describe with some particularity, for a reason which will be apparent further on. I had turned the mass out of the abdomen towards myself, and while partially supporting it, tied one half of the pedicle. My friend, Dr. ——, who stood opposite, said, "Let me tie the other half, Doctor, I can reach it more easily than you"; and, in violation of a rule from which I have not since departed, I reluctantly allowed him to do so. As he tightened the knot, I noticed, what always makes me apprehensive, that he did so with a *wriggling* motion of the hands. This motion is often seen, and is made, I suppose, with the idea that thus the knot is more effectually tightened, whereas the effect, so far as any is produced, is almost invariably to loosen it. I said, "Doctor, are you sure that is tight?" He assured me that it was, and I divided the pedicle and removed the tumor, which weighed, contents included, forty pounds. The ligatures were then carried through an opening made in the posterior *cul de sac* of the vagina down through that canal, and fastened to the thigh with adhesive plaster. During the entire operation, steady and even compression of the abdominal walls had been maintained by assistants, and my hands and sponges kept constantly moist with artificial serum *at blood-heat*. After the cavity was cleansed, a considerable quantity of this fluid was poured in and allowed to drain off through the vagina. The external wound was then closed by interrupted sutures of silver wire, which included the entire thickness of the parietes, except the peritoneum. These were placed half an inch apart. A light compress being placed along the line of the wound, a swathe was applied and she placed in bed wrapped in warm blankets, with bottles of hot water around the extremities.

The patient recovered readily from the anæsthesia, and was in excellent condition. She took a moderate dose of morphia, which was repeated *pro re nata*, but a very small amount being required to control pain.

I saw her the next day (Friday) at noon, and found her still in good condition, no symptoms of peritonitis presenting. She had slept quietly the greater part of the night, and was very cheerful and hopeful. On Saturday evening, I received a telegram from Dr. Lucas, saying, "—— is doing splendidly; she will get well." On Sabbath evening, I received another despatch, asking me to visit the lady as soon as possible. A drive of twenty miles over terrible roads was not very rapidly accomplished, and when I arrived, at 3 o'clock, Monday morning, the patient had been dead two hours. I learned that she remained entirely comfortable till late Sunday afternoon, when she began to be restless and anxious, complaining of slight abdominal uneasiness; from this time she grew gradually weak, pale, complained of faintness, sank and died. Dr. Lucas and myself were both of the opinion that she had died of hæmorrhage, and Dr. L. remarked that he had not "felt easy about the ligature that Dr. —— tied." We examined the body, Dr. Paddock, then medical student, assisting. The external wound had united by first intention throughout. The abdomen was filled with blood, which, upon examination, was found to have issued from the half of the pedicle that we had suspected, the ligature having loosened, so as to admit the handle of the scalpel between it and the pedicle. I have the specimen. Not a sign of peritonitis appeared. The ligature of the other half was separating kindly, the stump looking healthy.

Case II.—Mrs. ——, aged 30. Was always healthy previous to her confinement, which was natural, in the spring of 1864. Soon thereafter, she noticed an enlargement of the hypogastrium, most marked on the right side. This had very rapidly increased within the three months previous to my visit, at which time, in January, 1865, I found her with an amount of abdominal distention sufficient to cause much interference with the functions of the viscera, and a careful examination revealed an ovarian cyst. She had been rapidly failing in strength and flesh for several weeks, and was now entirely confined to the bed, and so weak as to require assistance in changing her position. Her pulse was very rapid and feeble, and her general expression such as to give very little encouragement for an operation. She had suffered from several attacks of peritonitis, no one of which was very severe.

She decided to take the forlorn chance of an operation, which I made with the assistance of Drs. Talbot and Pettee, of Wilmington, Vt., and Drs. Charles Bliss and Frank S. Abbott, then my students. The mode of procedure was similar to that adopted in Case I. The tumor, which was multilocular, was firmly adherent in many points to the abdominal walls, intestines, stomach and liver. The pedicle (right broad ligament) was transfixed, and each half tied with a suitable ligature, after

which I carried an additional one around the whole, carrying the three down through the vagina, as in the first instance.

She sustained very little shock, and we left her, three hours after, comfortable, though very feeble. She now got anodynes *pro re nata*, requiring only moderate doses, and was carefully supported from the first with concentrated nourishment—quinine, wine and muriated tincture of iron. As we feared, her recovery was very slow and tedious. So low was her vitality that the external wound united slowly, the lower angle at one time re-opening, through which, as well as through the vagina, much ichorous, fœtid discharge issued. Such was the condition of her blood, that her mouth and throat became aphthous, and ulcerations of the mucous surfaces occurred in various places. The *septum nasi* was attacked and perforated, the opening now remaining admitting the little finger. The tonics and stimulants were increased until heroic doses were given, to which she responded well. In addition, the abdominal cavity was *thoroughly washed out* once or twice daily, according to indications, with artificial serum at *blood heat*. This was accomplished by using a long pipe (a large catheter answers nicely) attached to an elastic syringe and inserted into the opening in Douglass's *cul de sac*, through which the ligatures passed, which allowed the fluid ready exit after it was injected, although for a part of the time a portion of it escaped through the lower angle of the external wound.

I advised Dr. Talbot, the attending physician, to consider *symptoms* of *peritonitis* indications for this washing out of the abdominal cavity, and it *invariably* had the *immediate* effect to relieve local distress, allay fever and restlessness, and in every way improve the condition of the patient. While the discharges were of an acrid or offensive character, solutions of chlorine were added. After a tedious illness, this lady made a good recovery, and is now in perfect health. The tumor weighed 38 pounds.

Too much praise cannot be awarded to my friend Dr. J. H. Talbot for his faithful, skilful care of this case; and to his ready appreciation of the varying indications and the prompt, energetic and skilful manner in which he met them, does this patient owe her recovery.

Case III.—Mrs. ——, aged 40, consulted me in the summer of 1866. She had suffered for three years from an abdominal enlargement, which began in the hypogastrium, "all across," as she thought, and had slowly but quite steadily increased. Within the last year she had suffered much pain, and for the few months before I saw her it had been very severe and very little under the control of anodynes. Under its influence she had wasted rapidly, and was now much emaciated and very weak. So great was her distress that for four days and nights previous to my examination she had not slept as many hours, and for three weeks she had been unable to assume the recumbent posture, for the reason that in that position the pain was very much aggravated. The functions of the intestines and bladder were much disturbed by the pressure. On examining the abdomen, a tumor was found occupying the median line above the pubis, of considerable size, but its dimensions alone not sufficient to account for her suffering. It was somewhat irregular in outline, certain portions having a solid feel and others fluctuating. After carefully sounding the uterus and completing the examination in detail, I was of the opinion that it was a multilocular cyst of the ovary. Yet one point perplexed me, as also my colleagues, who saw it with me. It occupied the median line, and was completely fixed in its position. The parietes could not be moved over it, nor could it be moved laterally or vertically to any extent. This fact, while it explained the terrible pelvic pain from pressure upon the nerves, rendered the diagnosis somewhat doubtful. There ever expressed the opinion that [illegible] ria[illegible]n which Profs. H. R. Storer, C. L. Fo[illegible] and A. B. Palmer concurred.

The propriety of an operation in this case was a trying question to settle. This poor woman had, during the past year, consulted the leading surgeons of Albany, N. Y., and of several other places, who had declined any interference. She was now in so feeble condition as to promise little tolerance of operative procedures, and withal the morbid growth was so firmly packed in the pelvis as to render it extremely doubtful whether its removal was possible. Yet, on the other hand, she was rapidly failing, and with no hope of any release from suffering this side of the grave, unless from surgical interference. This she insisted upon, and so in presence and with the assistance of the above-named gentlemen and Drs. Smith, Paddock and others, I proceeded to remove the tumor in the same manner as in the other cases. The mass, which proved to be ovarian and multilocular, was firmly glued to the abdominal walls, bladder, intestines, &c. So strong were these adhesions that it required great force at some points to separate them, and great care at all

to avoid injury to the various organs. At one time, while separating it posteriorly, a sudden and profuse gush of venous blood suggested the rupture of one of the iliac veins, but the collapse of several large veins running over the anterior surface of the tumor immediately relieved all apprehension. The pedicle (left broad ligament) was so very short and thick that, although firmly applied, the ligatures slipped upon the outer surface as the pedicle was divided. Dr. Storer now kindly applied his "clamp shield," which I had not seen before, and which controlled the stump admirably, enabling me to apply the ligatures securely without difficulty. I have since used this instrument repeatedly, and consider it admirably adapted to pedicles of this character. After carrying the ligatures through the vagina, cleansing the parts, using artificial serum freely, &c., the external wound was closed by interrupted sutures, *including the peritoneum.*

Notwithstanding the severe character of the operation, there was comparatively little shock. After being placed in bed and wrapped in warm blankets, reaction soon took place, and she passed a very comfortable night. For the next four days she went on without a single bad symptom. Perfectly happy in her relief from pain, she [illegible] soundly, and, although very weak, [illegible] most excellent condition. I omitted [illegible] in its proper place, that previous to the operation the stomach was very weak and irritable. This condition, although much less severe subsequently, rendered great care necessary as to the *quantity* of nourishment taken. On the fifth day after the operation, she was in excellent spirits, gaining strength, no peritonitis, and I felt comparatively easy about her. In the afternoon, being quite thirsty as well as hungry, she took several times, at short intervals, water and also beef-tea. Subsequently, lying upon the back, she fell into a quiet sleep. During this nap, the nurse noticed she retched a little, and immediately made an effort to vomit, but not being fairly awakened, she attempted inspiration while the mouth was filled with fluid, and so with it filled the air-passages. Of course, in her feeble state, such a struggle could not last long. I happened to be in the street, opposite the house, when this occurred, and was immediately called. But although the trachea was opened as quickly as I could draw a knife from my pocket, it was unavailing. The liquid issued freely from the wound, but artificial respiration effected nothing. She was dead.

I examined the body, *post mortem*, in the presence of Drs. Ford, Paddock and others. External wound entirely healed. No peritonitis. Ligatures nearly separated, and stump looking perfectly healthy.

The tumor in this case weighed twenty-eight pounds.

Case IV.—Mrs. ——, aged 45. Multilocular cyst, weighing fifty-eight pounds. Adhesions numerous, but not very firm. Operation made as above described. Recovery rapid and perfect. Ligatures came away on eighth day. In a letter, her physician, Dr. S. J. Brigham, says:—

"Mrs. —— has gone on to recovery with very little interruption. At three different times, there was sufficient fever, restlessness and pain to warrant, as I thought, injecting the cavity with artificial serum at blood heat, as you directed, and the immediate relief of all unpleasant symptoms was wonderful."

Case V.—Mrs. ——, aged 35, had noticed a small tumor in the right iliac region for over two years. It had grown steadily, but slowly. I first saw her in the summer of 1867. The tumor was spherical in shape, free from tenderness, fluctuating, and freely movable. Operation done in the usual manner. Upon opening the abdomen, the omentum was found very thick and firmly adherent to the parietes, rendering it necessary to go through it before reaching the tumor. This was found to be unilocular, attached to the right ovary, containing albuminous fluid, and the wall so thin and delicate as to rupture at one point when lifted out of the abdomen.

Some peritonitis followed, which was readily controlled by injections of artificial serum, which Dr. Talbot used as in Case II., and by anodynes and sedatives. The lady is now in good health.

Case VI.—Miss ——, aged 32. Multilocular cyst weighing 34 pounds. Had been growing four years. Had been tapped six times. Operation in same manner as in preceding cases. Many parietal adhesions, but no visceral. Tumor involved left ovary. The right one was also covered with little cysts, varying in size from a pea to an acorn, and was removed, the pedicle being ligated in the same manner as the other. She made a rapid recovery. The ligatures came away on the tenth day, and she rode out in four weeks after. The following extract from a letter received from her, and dated Feb. 20th, 1868, gives a fact of peculiar interest. The operation was made in October, 1867.

"About the 15th of December, I felt as if

I was going to be unwell, and had a slight colored discharge lasting half a day. At the same time in January, I felt the same, and had again a bloody discharge, but only a little, so it soiled my drawers. This month I have had slight symptoms, but no discharge, and the symptoms lasted only one day."

Case VII.—Mrs. ——, aged 28. Multilocular tumor, weighing 25 pounds. Operation made in same manner as in previous cases. Mild peritonitis, readily controlled. Recovery perfect. Ligatures came away on the ninth day.

Case VIII.—Miss ——, aged 32. Multilocular cyst of right ovary of four years standing; weight, 20 pounds. Ulceration had attacked the inner surface of the wall of one cyst, and perforated its entire thickness, except the most delicate peritoneal film. Operation made in same manner. No shock of consequence. Peritonitis supervened, proving fatal on the third day.

This last case was operated upon under the following unfavorable circumstances. She lived fifteen miles from me, and five or six from her family physician. The tumor was already producing a sufficient amount of local disturbance to warrant interference, and her circumstances were such that we deemed it unadvisable to remove her from home. I therefore relied upon a most efficient and experienced nurse, but whose services I failed to secure at the last moment. Still, expecting to secure one suitable for the occasion, I did the operation, and left Dr. Fairbanks, of Pittsfield, in charge for the next forty-eight hours, during which time she did nicely. Afterward, she was in the hands of those entirely inexperienced in such cases. The abdominal cavity was not washed out. Her excellent physician, Dr. Bates, of Lebanon Springs, N. Y., did all for her in his power, but he lived far away, and was in feeble health, and the travelling at that time was very bad.

It will be seen that of the eight cases here reported two terminated fatally, and six were perfectly successful, including the one in which both ovaries were removed. In Case III., there was no relation of cause and effect, between the operation and the death, the operation being perfectly successful. In Case I., the death was purely accidental, and should be so accounted in making up statistics of the operation.

General Remarks.—From a thorough study of my own cases, and of those which I have seen in the practice of others, with a somewhat careful examination of the literature of ovariotomy, I am led to the following conclusions.

1st. That, where the tumor is large, it is impossible to form any accurate estimate of the extent or strength of adhesions that may exist, before reducing the bulk by tapping, and even then extensive visceral adhesions may be present which cannot positively be detected. It is not safe to argue the absence of such attachments because the patient has not suffered from marked symptoms of peritonitis, for the reason that such an inflammation often occurs sufficient to produce very firm adhesions, and yet so latent as to escape notice.

2d. The existence of adhesions is no contra-indication for an operation, but on the other hand, such cases, even when the bands are numerous and strong, do the best as a rule. They suffer less shock and are less liable to peritonitis. The membranes seem, by the previous morbid action, to have acquired a tolerance of such disturbing causes as would awaken inflammation in one that had never been diseased.

3d. In preparing the patient great care should be taken to secure a healthy state of the secretions, and the system be sufficiently impressed with the muriated tincture of iron to insure plasticity of the blood.

4th. The *utmost* gentleness and delicacy should be observed in all manipulations by surgeon and assistants. Strange as it may seem, this most important rule is too often violated to my personal knowledge. There is no excuse for unnecessary handling of parts by rough, dry or cold hands, or exposure to the air a moment after the operation is completed.

5th. A most powerful prophylactic against shock and subsequent inflammation is the free use of artificial serum (common salt ℥j., albumen ℥j., pure water Oj.) *at blood heat.* Keep the parts thoroughly and constantly moist with it.

While I believe that this serum, acting as a mechanical protection to the parts, is in this way of great advantage, I still attach *much more importance to the heat.* A moment's reflection will convince any one, theoretically, that a delicate serous membrane suddenly exposed to the air, and its temperature reduced twenty or thirty degrees, and maintained at that point for any length of time, is much more liable to inflammation than one which has been carefully kept at or very near its ordinary heat, and that too by the application of a liquid almost precisely like its natural secretion; and my own cases of abdominal section afford to me conclusive evidence that this is true. In none of my cases has there been anything like collapse.

Nor is this application of heat to be restricted to this class of operations. I have latterly discarded the use of cold water for sponging during any operation which exposes a large raw surface. In large amputations, in dissections for the removal of large tumors especially about the neck and trunk, I am thoroughly convinced that the shock is very much less, as also the danger of inflammation, if hot water be used instead of cold. The cases where hæmorrhage requires the substitution of cold are so exceptional as not to invalidate the rule. I would much prefer multiplying ligatures to chilling the parts.

I prefer an elevated temperature of the room, but consider the moisture of the atmosphere of little importance, comparatively.

6th. The treatment of the pedicle in the cases reported seems to me more reasonable than any other. The use of the clamp for the fastening of the pedicle in the external wound by any means is only applicable to long pedicles, and even then in case of peritonitis with much distention, is a serious complication, as also in subsequent pregnancies. To this is to be added the danger of intestinal strangulation. The same objections obtain against Dr. Storer's recent proposal to pocket the pedicle with additional ones in case primary union fails. The actual cautery is unreliable, and so is the ecraseur notwithstanding the few cases in which the latter has been successfully used.

The cutting of the ligatures short and dropping the stump back into the abdomen would of course be *the* plan if safe. But in the first place the immunity from sloughing is by no means established, and in very many if not all the cases there must be, aside from any such process, a collection of fluids serous, sero-sanguinolent or purulent, more or less, which had much better be readily discharged than left to the care of the absorbents. (I know of one case that was reported cured by this operation, that died, after all, of septicæmia.) In all my cases there was a vaginal discharge from the first, usually slight and varying in character. By carrying the ligatures down through the posterior *cul de sac*, all danger from this source is obviated. The opening is made at the most dependent part of the pelvic cavity where the fluids will naturally gravitate, and where they will thus find a ready exit. The pedicle is more effectually secured by the ligatures than by any other means, and if carried through the vagina they produce no noticeable irritation, and after their work is done no foreign body is left in the abdomen, and at the same time the external wound is allowed to heal by first intention.

But another great value of the opening into the vagina is the facility which it affords for washing out the abdominal cavity, to which procedure I attach so much importance.*

The after treatment must be conducted upon general principles, and not according to any fixed rules. I think the cases very rare where large quantities of opium are required or can be borne without harm.

Finally, the case must be a very peculiar and urgent one upon which I would operate and leave the patient for after treatment in the hands of another person, except it be one who was experienced in the management of such cases.

March 2, 1868.

* After trying several different methods for passing the ligatures through the canal, I prefer the following. Pass into the vagina a pair of common, uterine dressing forceps, with the blades closed, and push their point upward in the *cul de sac* until, looking into the pelvic cavity, the surgeon sees the membranes stretched over them behind the uterus. While in this position open the blades a little, pass a bistoury through the septum between them, close them, pass through the opening, seize the ligatures and drag them downward out through the vagina.

I obtained the idea of thus disposing of the ligatures, as also of using artificial serum, from Prof. E. R. Peaslee, of New York.